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| 10/571,014  | 02/05/2007  | Michel Georges Encrenaz | 200300566-4         | 6698             |
| 22879   | 7590        | 10/07/2009              | EXAMINER            |                  |
| HEWLETT-PACKARD COMPANY<br>Intellectual Property Administration<br>3404 E. Harmony Road<br>Mail Stop 35<br>FORT COLLINS, CO 80528 |             |                         |                     | SUAZO, DAVID L   |
| ART UNIT  |             | PAPER NUMBER            |                     |                  |
| 2625  |             |                         | NOTIFICATION DATE   |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM  
ipa.mail@hp.com  
jessica.l.fusek@hp.com

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/571,014             | ENCRENAZ ET AL.     |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | David L. Suazo         | 2625                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 08 March 2006.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-92 is/are pending in the application.  
 4a) Of the above claim(s) 1-82 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 83-92 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 08 March 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 3/8/2006.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

Claims 1-82, are (canceled).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 83 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rumph [U.S. Pat. 6,429,948] herein after referred to as Rumph, in view of Applicants Admitted Prior art herein after referred to as AAPA, in further view of Clouthier [U.S. Pat. 5,949,964] herein referred to as Clouthier.**

1. Regarding Claim 83, Rumph discloses: A Print Control System adapted to control a digital printer [Abstract]:

    said system being adapted to route data representative of content colour to

        (a) a colour separation process, [Figure.34, Component 1714, Color Transformation, Col.9, Lines 58-65] and to

        (b) a half-toning process, [Figure.34; Optimized Halftone Generators, 1712, Col.9, lines 50-56] and to

        (c) a masking process, [Fig.17, Steps S480-S1070, Process Masking Operator Col.29, lines 24-29].

What Rump fails to teach is: Having a first machine-readable ink and a second ink, or inks, that is/are not machine-readable at the same wavelength as said first ink, and said system being configured to cause said printer to print documents having both,

(a) machine-readable pattern adapted to enable a digital pen to acquire data to enable its position in said pattern to be determined, and (b) human-discriminable content that is not read by said pen in use.

AAPR teaches this missing limitation of having a first machine-readable ink and a second ink, or inks, that is/are not machine-readable at the same wavelength as said first ink, [AARP: Paragraphs (0016-0018); Anoto substitute Black can be used as an invisible ink to the infrared pen reader, and process black can be used to give a high contrast for the pen camera], said system being configured to cause said printer to print documents having both [AARP: Paragraph (0015-0018)], and

(a) machine-readable pattern adapted to enable a digital pen to acquire data to enable its position in said pattern to be determined, [AARP: Figure.1, # 12, Paragraph (0004)] and

(b) human-discriminable content that is not read by said pen in use, [AARP, Human discernable content, Fig.3, #46 and #48, see Paragraph (0013).].

Rumph and AAPR are combinable because they are from the same field of endeavor namely Image Processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of Rumph by the teachings of AAPR to include Claim (83).

The suggestion/motivation for doing so would have been to: Provide both machine visible and invisible ink toner as taught by AAPR in paragraphs (0015-0018).

Therefore it would have been obvious to combine Rumph with AAPR to obtain the invention as specified in Claim (83).

What Rumph and AAPR fail to teach is (d) where said system is adapted to route data representation of a pattern so as to by-pass a half-toning process.

Clouthier teaches this missing limitation: (d) where said system is adapted to route data representation of a pattern so as to by-pass a half-toning process. [Clouthier; Col.5, Lines 1-15; and Fig.1, # 36; Illustrates data by-passed through halftone module #26 via bypass to the print engine #28, col.5, lines 11-15].

Rumph, AAPR and Clouthier are combinable because they are from the same field of endeavor namely Image Processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of Rumph, AAPR by the teachings of Clouthier to include Claim (83).

The suggestion/motivation for doing so would have been to: Improve optimizing rendering, as taught by Clouthier in column 5, lines 1-17. Therefore it would have been obvious to combine Rumph, AAPR with Clouthier to obtain the invention as specified in Claim (83).

**Claim 84 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rumph [U.S. Pat. 6,429,948], in view of AAPA, in view of Clouthier [U.S. Pat. 5,949,964], and in further view of Mostafavi [U.S. Pat 5,642,444] herein referred to as Mostafavi.**

2. Regarding Claim 84, Rump, AAPR, and Clouthier fail to teach, a control system according to claim 83 adapted to route data representative of a pattern so as to by-pass a masking process.

Mostafavi teaches this missing limitation of: A control system according to claim 83 adapted to route data representative of a pattern so as to by-pass a masking process. [Fig.5; Element 20; and Col.6, lines 45-50. Discusses a Control system including a masking means which is used to bypass image data].

Rump, AAPR, Clouthier and Mostafavi are combinable because they are from the same field of endeavor namely image processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of Rump, AAPR, Clouthier by the teachings of Mostafavi to include claim (84).

The suggestion/motivation for doing so would have been to improve image processing, as taught by Mostafavi in Summary of Invention Col.2, lines 8-9. Therefore it would have been obvious to combine Rump, AAPR, Clouthier with Mostafavi to obtain the invention as specified in claim (84).

**Claims 85 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rumph [U.S. Pat. 6,429,948], in view of Applicants Admitted Prior art, in view of Clouthier [U.S. Pat. 5,949,964] and in view of Funahashi [U.S.Pub. 2002/0036645]**

**herein referred to as Funahashi and in further view of Cox [U.S. Pat. 5,140,686]  
herein referred to as Cox.**

Regarding Claim 85, Rumph, AAPA, Clouthier fail to disclose a control system according to claim 83 adapted to route data representative of content through a linearization process.

Funahashi teaches this missing limitation of routing data representative of content through a linearization process [Fig.1 #12a, 12b, 12c; Paragraph (0040) Content Data Conversion Process].

Rumph, AAPA, Clouthier, and Funahashi and are combinable because they are from the same field of endeavor Image Processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of Rumph, AAPA, Clouthier, by the teachings of Funahashi to include Claim (85).

The suggestion/motivation for doing so would have been to: To allow differences in colors to be identified even when colors are displayed on a gray scale as taught by Funahashi in the Abstract. Therefore it would have been obvious to combine Rumph, AAPA, Clouthier, with Funahashi to obtain the invention as specified in Claim (85).

What Rumph, AAPA, Clouthier, and Funahashi fail to teach is routing data representation of pattern so as to by-pass said linearization process.

Cox teaches this missing limitation of routing data representation of pattern so as to by-pass said linearization process. [Col.3, Lines 66-67 and Col.4, Lines 1-5 also see Fig.9, #81, Col.14, lines 9-15;Pattern Data By-pass].

Rumph, AAPA, Clouthier, Funahashi and Cox and are combinable because they are from the same field of endeavor Image Processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of Rumph, AAPA, Clouthier, and Funahashi by the teachings of Cox to include Claim (85).

The suggestion/motivation for doing so would have been to: Increase speed of processing as taught by Cox in Abstract. Therefore it would have been obvious to combine Rumph, AAPA, Clouthier, and Funahashi with Cox to obtain the invention as specified in Claim (85).

3. Regarding claim 86, Cox teaches A control system according to claim 83 adapted to route data representative of pattern so as to by-pass a masking process [Fig.9, #81] and adapted to route data representation of pattern so as to by-pass said linearization process. [Fig.9, #81 Fig.9, #81, Col.14, lines 9-15;Pattern Data By-pass around LUT, which are a form of Linearization].

Funahashi further discloses routing data representative of content through a linearization process, [Fig.1 #12a, 12b, 12c; Content Data Color Correction, Paragraph (0040)].

**Claim 87 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson [U.S. Pat. 6,132,0234] herein referred to as Nelson, in view of Applicants Admitted Prior Art, in view of Clouthier [U.S. Pat. 5,949,964].**

4. Regarding Claim 87, Nelson discloses: A method of printing documents having printed thereupon both: [Fig.1, Printer; Col.6, Lines 10-11]

The method comprising digitally printing the content and pattern onto the document using the same digital printer, [Abstract],  
the printer having a first ink which is not machine-readable at a particular wavelength of electromagnetic radiation and a second ink that is machine-readable at the said particular wavelength, [Claim 1: Visible and Invisible inks printed], and printing the content with the first ink [Human visible] and not the second ink [Claim.1, A means for printing visible content using visible ink], at least where said content overlies said pattern, and printing the pattern using the second ink. [Abstract; Using ink that is visible to the sensor printing a fill pattern].

[Note: Examiner understands machine readable ink to be referring to the scanning pen device, and is not human visible].

What Nelson fails to teach is (a) Machine-readable position-determining pattern adapted to enable a machine reader to determine its position in a pattern space, and (b) Human-discernable content adapted not to be read by said machine reader.

AAPR teaches this limitation of; (a) Machine-readable position-determining pattern adapted to enable a machine reader to determine its position in a pattern space, [Fig.1, #12, Paragraph (0004)] and

(b) Human-discriminable content adapted not to be read by said machine reader  
[AAPA of record Fig.3; # 46, 48; Paragraph (0013)].

Nelson and AAPA and are combinable because they are from the same field of endeavor Image Processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of Nelson by the teachings of AAPA to include Claim (87).

The suggestion/motivation for doing so would have been to: Provide both machine visible and invisible ink toner as taught by AAPR in paragraphs (0015-0018). Therefore it would have been obvious to combine Nelson with AAPA to obtain the invention as specified in Claim (87).

What Nelson and AAPA fail to disclose is wherein data representative of content is half-toned and wherein data representation of pattern bypasses a half-toning process.

Clouthier teaches this missing limitation: Wherein data representative of content is half-toned [Clouthier: Fig.1, #26; Halftoning; Col.4, lines 60-63] and wherein data representation of pattern bypasses a half-toning process. [Fig.1, # 36; Col.5, Lines 1-15; Illustrates data by-passed through halftone module #26 via bypass to the print engine 28].

Nelson, AAPA and Clouthier are combinable because they are from the same field of endeavor Namely Image Processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of Nelson, AAPA by the teachings of Clouthier to include Claim (87).

The suggestion/motivation for doing so would have been to: Provide an improved method and apparatus for halftoning of images, as taught by Clouthier in column 2, lines 21-23. Therefore it would have been obvious to combine Nelson, AAPA with Clouthier to obtain the invention as specified in Claim (87).

**Claim 88 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson [U.S. Pat. 6,132,0234], in view of Applicants Admitted Prior Art, in view of Clouthier [U.S. Pat. 5,949,964] and in further view of Rump[U.S.Pat. 6,429,948].**

5. Regarding Claim 88, Nelson, AAPA and Clouthier fail to disclose a method according to claim 87 wherein data representative of content is operated upon by a masking process, and data representation of pattern bypasses a masking process.

Rump teaches this missing limitation of a method according to claim 87 wherein data representative of content is operated upon by a masking process [Rump; Col.34; Lines 47-62; Fig.24; S1070-S1710] and data representation of pattern bypasses a masking process. [Rump; Col.34; Lines 47-62; Fig.24; S1070- S1720].

Nelson, AAPA, Clouthier and Rump are combinable because they are from the same field of endeavor, Image Processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of Nelson, AAPA, and Clouthier by the teachings of Rump to include Claim (88).

The suggestion/motivation for doing so would have been to: Provide an optimized printing system as taught by Rump in the Abstract.. Therefore it would have been obvious to combine Nelson, AAPA, Clouthier with Rump to obtain the invention as specified in Claim (88).

**Claim 89, 90, and 91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art [AAPA], in view of Nelson [U.S. Pat. 6,132,0234], in further view of Rumph [U.S. Pat. 6,429,948].**

6. Regarding Claim 89, AAPA discloses a method of printing on demand a page or other article with both a machine-readable position-determining pattern readable at a specific, optionally non-visible, wavelength [Fig.1], and a method comprising having content data and pattern data [Fig.3].

What AAPA fails to teach is human-discriminable content using a single digital printer responsive to a print command from a user's processor.

Nelson teaches this missing limitation of human-discriminable content [Col.3, lines 26-29] using a single digital printer responsive to a print command from a user's processor [Col.7, lines 21-25]. AAPA and Nelson are combinable because they are from the same field of endeavor, Image Processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of AAPA, by the teachings of Nelson to include Claim (89).

The suggestion/motivation for doing so would have been to: Enhance System performance as taught by Nelson in column 4, lines 25-27. Therefore it would have been obvious to combine AAPA with Nelson to obtain the invention as specified in Claim (89).

What AAPA, and Nelson fail to teach is processing the content data differently from the pattern data during data processing performed to print the document. Rumph teaches this missing limitation of processing the content data differently from the pattern data during data processing performed to print the document. [Col.2 Lines 43-48; Processing page image (Content Data) such that object is optimally based].

AAPA, Nelson and Rumph and are combinable because they are from the same field of endeavor, namely Image Processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of AAPA, Nelson by the teachings of Rumph to include Claim (89).

The suggestion/motivation for doing so would have been to: Provide an optimized printing system as taught by Rump in the Abstract. Therefore it would have been obvious to combine Nelson, AAPA, Clouthier with Rump to obtain the invention as specified in Claim (89).

7. Regarding Claim 90, Rump discloses a method of printing according to claim 89 comprising using a single digital printer responsive to a print command from a user's processor, and the method comprising treating the pattern as text content in a printer driver, [Fig.34; #1710; Col.9, Lines 43-45; Image Processing System and Print engine],

Nelson further discloses printing the pattern using exclusively one ink that is readable by a machine at said non-visible wavelength, or exclusively using a plurality of inks that are readable at said non-visible wavelength. [Col.3, Lines 20 -25]

and printing the content, at least that content which is superposed with said pattern, using exclusively an ink, or inks, that are not machine-readable at said non-visible wavelength, [Col.3, Lines 20 -25].

8. Regarding Claim 91, Rumph discloses a method of printing according to claim 89, the method comprising taking a RGB version of an image from a computer and isolating the pattern in its own colour plane, optionally during a colour separation process, content being printed with other available colour planes not including said pattern colour plane. [Col.33 Lines 39-44; Using RGB, and preferred color transformation for converting into CMYK].

**Claim 92 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art [AAPA], in view of Nelson [U.S. Pat. 6,132,0234], in view of Rumph [U.S. Pat. 6,429,948], and in further view of Clouthier.**

9. Regarding Claim 92, AAPA, Nelson and Rumph fail to disclose a method according to claim 91 in which content colour plane data undergoes a half-toning and masking operation in order to determine what content, if any, is printed at each pixel of the printing operation, and wherein pattern colour plane data bypasses the half-toning operation.

Clouthier teaches this missing limitation in which content colour plane data undergoes a half-toning and masking operation in order to determine what content, if any, is printed at each pixel of the printing operation, [Col.5; Lines 1-14], and wherein pattern colour plane data bypasses the half-toning operation. [Clouthier: Col.5, lines 12-15, Bypassing the Halftone Module].

AAPA, Nelson, Rumph and Clouthier and are combinable because they are from the same field of endeavor, namely Image Processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have further modified the combination of AAPA, Nelson, and Rumph by the teachings of Clouthier to include Claim (92).

The suggestion/motivation for doing so would have been to: Provide an improved method and apparatus for halftoning images, as taught by Clouthier in column 2, lines 21-24. Therefore it would have been obvious to combine AAPA, Nelson, Rumph with Clouthier to obtain the invention as specified in Claim (92).

## Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. **Tsai [U.S. Pat 7,328,845]** where a method for producing indicators and processing apparatus utilizing indicators is discussed. Which do not interfere with the human perception of reading.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Suazo whose telephone number is (571) 270-5896. The examiner can normally be reached on Monday thru Friday 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler L. Haskins can be reached on 571-272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David L Suazo/  
Examiner, Art Unit 2625

/Twyler L. Haskins/  
Supervisory Patent Examiner, Art Unit 2625